

SIMILARITY OF COLOR IN BUD AND IN LEAF.

HEYWARD SCUDDER.

DURING the last year I have noticed that the dominant color of the leaf-bud is the dominant color of the leaf after it has turned in the autumn. The most familiar examples of this are to be seen in the maples, particularly the swamp maple, and the willows. It is also true of the beeches, many of the rose family, and of the heath family as represented by the huckleberry and blueberries. The rhododendron, which is an evergreen, has green leaf-buds. In the case of the oaks the general color of the turned leaf is brown. But this varies so that the dominant color may be red (giving a red brown) or yellow (giving a yellow brown). So far as my observation goes the oak leaf-bud follows the principle just stated, varying as does the dominant color of the turned leaf.

If this fact is not already known, it is worthy of further observation. The nature and cause of the change of color of the leaf in autumn are better understood at present than they were formerly. But, as is the case with many of the problems of animal and of vegetable life, there is a great tendency to draw conclusions which are really statements of the problem in another form, the use of new words concealing the lack of advance in knowledge. (I admit that this is true in other branches of chemical work, but in them it is easier to get some sort of check on the accuracy and value of the work, than it is in the case of the chemistry of the changes connected with animal and vegetable life.)

There is no obvious reason why *Penicillium glaucum* in a mixture of dextro- and laevorotatory salts, should prefer one to the other, although able to use both, nor why one plant should use a considerable amount of silicon, when most plants use very minute amounts. The generalizations are difficult to reach, both because of the great variations produced by small changes in environment (whether terrestrial or atmospheric) and because of the limited amount of knowledge we actually possess.

While some plants are known to contain alkaloids, recent work makes it quite certain that these compounds are not fixed bodies, *e. g.* the alkaloid aconitine varies in composition, depending on the

species of the plant, and possibly on some local conditions of growth. The physiological effects of these different kinds of aconitine probably vary slightly, though all have the same general effect. Specific enzymes exist in many plants, but it is difficult to get much accurate knowledge about them, outside certain effects that they produce.

If enzymes are responsible for all color-changes in plants, this relation of the color of leaf-bud and of turned leaf is of interest. It would require a good deal of field work to verify the relation, but it certainly seems worthy of further study.

BOSTON, MASSACHUSETTS.

THE WINTER MEETING OF THE VERMONT BOTANICAL CLUB.

NELLIE F. FLYNN.

THE sixteenth annual winter meeting of the Vermont Botanical Club was held at the Williams Science Hall, University of Vermont, Friday and Saturday, Jan. 20 and 21, 1911, in conjunction with the Vermont Bird Club. The sessions were interesting and well attended.

Twelve botanical papers were presented and discussed. The principal ones were "Botanical Trips in Western Louisiana," by Dr. Ezra Brainerd, illustrated by beautiful mounted specimens, "A Botanical Garden as Related to Botanical Work," by Dr. George P. Burns, illustrated by lantern slides of some European botanical gardens, "Sketch of the Work of the Poisonous Forage Plant Division of the Department of Agriculture in Colorado during 1910, by Willard W. Eggleston, and "Flora and Fauna of Hart Island," by Jay G. Underwood.

The annual supper, complimentary to the visiting members, was held as usual at the Y. M. C. A. Hall Friday evening. Post prandial exercises in the shape of the annual roll call, brought out many witty responses.

Sixteen new members were elected and on invitation it was decided to hold the next winter meeting at St. Johnsbury. The summer meeting will probably be at Mt. Horrid in Rochester the first of July.